ABSTRACT OF THE DISCLOSURE

ELECTROIONIC WATER DISINFECTION APPARATUS

This invention relates to a method and apparatus for the disinfection of water and wastewater contaminated with bacteria and other microorganisms. The apparatus includes an electrolytic flow cell including electrodes forming a part of flow pipe or open channel through which water or wastewater passes. The electrodes are formed of iron, stainless steel, carbon or copper and connected to a power supply voltage in the range of 20 to 100 volts and establishing a current in the range of 1 to 6 amperes. Disinfection results from either metal ions impacting microbial cells or through the generation of hydrogen peroxide, hydroxyl radicals and hypochlorous acid. When the electrodes are copper, toxic metal contamination limits are established through proper design of the flow cell. An ultrasonic transducer is connected to the electrodes and enhances hydroxyl radical generation.